NEVADA DIVISION OF MENTAL HEALTH AND DEVELOPMENTAL SERVICES

New Generation

Psychiatric Medications

Carlos E. Brandenburg, Ph. D.
Administrator
Debbie Hosselkus
Deputy Administrator

By Paul D. Wulkan
Planning and Evaluation Unit
Depeartment of Human Resources
Division of Mental Health and Developmental Services

Kinkead Building, Suite 602
505 E. King Street
Carson City, Nevada 89701-3970

Telephone (775) • 684 - 5943
Facsimile (775) – 684 - 5966

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Phone (775)- 684-5943 Fax (775)- 687-4773

Section 1

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Section

1

Introduction

The purpose of this paper is to discuss the benefits and value of the new generation medications (NGM) compared to the older medications used to treat mental disorders. Our purpose is not to discard the older medications but to demonstrate the effectiveness of the appropriate and judicious use of the new generation medications. (NGM).
It is also the intent of this paper to show the cost benefits and value of the new generation medications in the treatment of the primary psychiatric disorders that present to the Nevada mental health system.

The Cost of the New Generation Medications (NGMs)

The primary concern with the new generation medications is cost. An average dose of the NGMs cost from 9 to 10 times more than the older medications. The newer medications are however, safer, more efficacious, have broader utility and have many positive secondary benefits such as the decrease in non-related health care costs and improved quality of life for the patient. The chart below is an example of pharmacy budget increases in <u>one</u> county in California from 1994 to 1999. (Viale, 2000). They are very similar to the Nevada in population. (Figure 2).

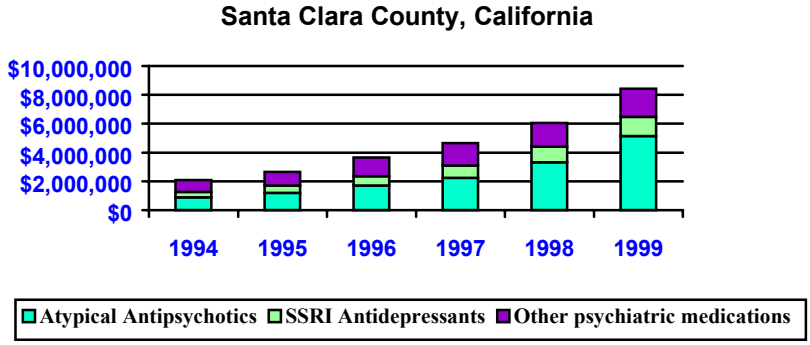

Figure 1 Pharmacy costs for Santa Clara County, California

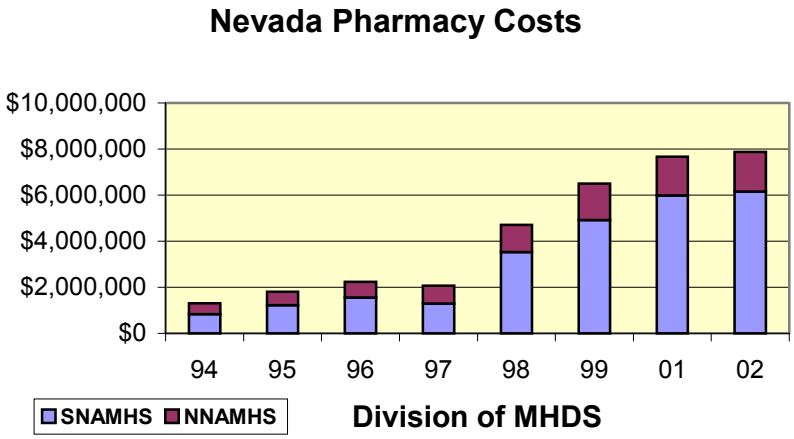

Figure 2 Nevada Pharmacy Costs - FY 94 - 02

Use and cost of the New Generation Medications

The major classes of disorders that are being treated by the New Generation Medications (NGMs) and their annual U.S. cost to the nation are:

- Bipolar Disorder $16 Billion
- Depressive Disorders $44 Billion
- Schizophrenic Disorders $32 Billion

These costs include treatment, lost productivity, morbidity and mortality.

These major disorder grouping are reflected in Nevada's own patient caseload.

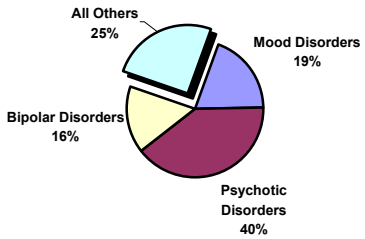

Figure 3 Hospital Admissions by diagnosis - SNAMHS (FY 1990 - 2000)

These three groups (Figure 3) represent 75% of patients hospitalized at Southern Nevada Adult Mental Health (SNAMHS) over the past 10 years.
Each of the three major disorders mentioned above responds to specific classes of medications but various combinations of medications may also be used in special circumstances. Table 1 below, shows the primary medication class used for each disorder group, as well as the secondary medication classes that might be used in the treatment of the individual.There are primary medications for each of the major disorders. If the primary medication fails, other combinations may be used in order to stabilize the patient. The following is a brief description of each of these major disorders including the incidence and consequence of each.

	Depression	Psychotic D/Os	Bipolar D/O
Antidepressants	Primary	Secondary	Primary
Antipsychotics	Secondary	Primary	Possible
Mood Stablizers	Unusual	Unusual	Primary

Table 1 Medications used for various disorders

Some General Truths in Health Economics

In order to compare any new product or procedure, it is necessary to do what is called cost benefit analysis.

It has been said, "If you want economy, you have to pay for it." In cost benefit analysis, both the value and the cost are considered. This means one must look at the economic, the direct, the indirect and the intangible benefits, of treatment. It is a measure of effectiveness in relation to cost.

Put another way; accountants know the cost of everything but the value of nothing, economists know the cost of everything and the value of everything.

Throughout the world, a great deal of research has been conducted over the years on the new generation medications. Without trying to be all-inclusive, several accepted studies will be cited that assist in measuring the cost-effectiveness of the new medications. Included will be both the direct and the indirect costs, which are needed to determine value.

Facts about Mental Health

A quick overview of the persons who might need the new medications is in order. Mental health disorders account for more than 15% of disease from all causes in the United States. Approximately 10 % of the nation's total health care costs are spent in treating mental disorders.

Studies show that productivity is one of the main victims of mental illness. About 60% of employee absences were due to psychological problems.

It is estimated that 25-30 million people in the United States suffer from Depression, Bipolar Disorder or Schizophrenia. (National Alliance for Research on Schizophrenia and Depression, 2000) A recent study showed that in 1996, more than 26 percent of people surveyed felt they had an impending nervous breakdown sometime in their life, up from 19 percent in 1957.

- **Estimated Percent of U.S. Mental Health Spending for Treatment**

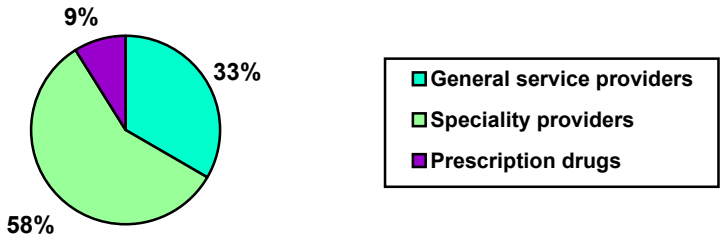

Figure 4 Estimated expenditures for mental health care

Total costs were $66.7 million but only 9% were for medications. The percent would be even lower if productivity losses were included. General service providers include community hospitals, physicians, home health, & nursing homes. Specialty service providers include psychiatric hospitals, psychiatrists, residential treatment centers, and multiservice mental health organizations.

- **Incidence and Treatment of Bipolar Disorders**

Bipolar Disorder costs society more than $16 billion a year through medical bills, missed work and lower productivity. The disorder affects more than 2 million Americans (approximately 1%). More than 50% of those with bipolar disorder abuse alcohol and drugs. Bipolar disorders tend to run in families. Research suggests it is the lack of stability of the transmission of nerve impulses in the brain that cause this disorder (Sachs, 2000)

Many bipolar persons have not been diagnosed until later in life, sometimes in their 30's and 40's. They often have had many years of difficulty with the law, been unproductive in terms of jobs and education, and poor or failed relationships before treatment.

- **Incidence and Treatment of Depression**

Depression affects six percent of the world population. Experts estimate Depression costs $60 billion a year worldwide in measurable costs such as medication and therapy. It is estimated that one in five people will suffer from Depression at least once in their lifetime. (Hornsby, 1999).

- **Cost of Depression**

The total cost of Depression in the United States is estimated to be about $40 – 44 billion. In the United States the estimates are $44 billion lost due to lost or reduced productivity and $12.4 billion of which are direct treatment costs (Greenberg, 1993). Lost or reduced productivity amount to $30 billion. By comparison, the cost of antidepressant medications is less than $5 billion or only 11% of the cost of depression.

A study in Britain put the direct care costs at £2 ($3.3) billion and up to £8 ($13.2) billion for indirect costs.

The increased incidence has been attributed to less stigma, more effective medications with reduced side effects, increased knowledge on part of the general population and an increase in population. (Medical Sciences Bulletin, 2000)

In a discussion of the new antidepressants and quality of care for depression, the research group RAND found that spending the additional 20-30 percent it takes for care following practice guidelines could quadruple the cost-effectiveness of mental health care. (Sturm, 1995).

- **Treatment of Depression**

The reoccurrence of depression is estimated to be anywhere from 40 to 60% for persons with first episodes. Depression is estimated to affect 17 million Americans (6%) (National Foundation for Brain Research, 1999). Fifty-six percent of employers report a decline in productivity due to the symptoms of depression (McCarthy, 1999). It is considered to be responsible for approximately 6.8% of the total disease burden in the nation. (ProMex, Inc, May, 2000). For unknown reasons depression has been on the increase worldwide since 1949.

The treatment of depression is on the increase worldwide. Depression is estimated to be the most under diagnosed and under treated disorder, especially by general practice physicians (Hirschfeld, 1997). Between 1988 and 1993 the number of visits for depression, with psychiatrists, has increased from 11 million to 20.4 million nation wide. There have been several studies that show

a combination of therapy (counseling and medications) is more effective than either medication or counseling alone (Keller, 2000). A combination of therapy and medications is more effective than either medication or an array of psychosocial therapies alone.

- **Incidence and Treatment of Schizophrenia and Schizoaffective disorders**

Although there are several types of psychoses, Schizophrenia is the most common. Estimates are that 45 million people worldwide are affected by schizophrenia and over 2 million Americans in any given year. Schizophrenia is a brain disorder which affects about 1-2% for the general population. The estimated annual cost is $32.5 billion. While the precise etiology of schizophrenia remains unknown, a consensus has emerged among researchers that genetic predisposition and environmental factors combine to predict the development of this devastating disease (Decision Resources, Inc., 1999). The impact of the first use of effective chemical treatment (Phenothiazines) in America took place in the 1950's. For the first time in the history of American institutions, the growth of the inpatient hospital population halted and, in fact, started to decline. This event changed our institutional philosophy from one of warehousing to one of treatment (Wolfensburger, 1970). A similar event is occurring with the advent of the NGMs in that the most recalcitrant and treatment resistant patient are returning to the community.

Nearly 66% of NGM antipsychotic prescriptions in the United States are now for atypicals, up from 33% at the end of 1996 (MacCarthy, 2000).

Benefits of the New Generation Medications Vs. the Older Medications

The NGMs have had a significant impact on those persons with psychoses. This chart shows the differences in the efficacy of the older versus the NGMs.

"Positive symptoms" such as hallucinations, delusions, disorganized speech and catatonia has been effectively treated by both the old and new medications.

"Negative symptoms" (i.e., hostility/excitement, under activity, social withdrawal and apathy) had not been affected with older treatments but do respond to the NGMs.

Studies have also found that persons treated with the NGMs show improvement in their attention, reasoning and memory. Older medications show a decrease in these brain functions.

- **Reduction in Suicide for Persons with Schizophrenia on NGMs**

In addition to the direct expense of hospitalization, the suicide rate for persons with schizophrenia is five times that of the general population in the United States. It is the cause of death of 10 of 15 percent of persons with Schizophrenic and Schizoaffective Disorders. These, of course, are the indirect costs of the disorder.

One of the beneficial outcomes of the NGMs has been a reduction in suicide. The NGMs have an antidepressant quality that has proven to reduce mortality. Two studies show a six-fold decreases in suicide with the use of one of the NGMs. Others have noted an 85% decrease in suicide. Mood changes such as expressed in sucidality, hopelessness and hostility, all decreased with NGMs.

All of the above have led to an increased rating of quality of life by patients taking the NGMs. This has been objectively measured in several studies. One, done by the Department of Veterans Affairs, showed a significant increase after twelve months.

In general, the new antipsychotics have a broader spectrum of efficacy than the older medications.

Several studies have noted a reduction in suicide for patients on the NGMs. In a study with Clozapine (one of the older NGMs), there was a five-fold decrease in suicide (Reid, 1998). In another Texas study on the used of NGMs, the suicide rate dropped from 63.1 to 12.7 per 100,000. The U.S. average is 15.7 per 100,000. Two additional studies show a six-fold decrease with Clozapine (Reid, 1998).

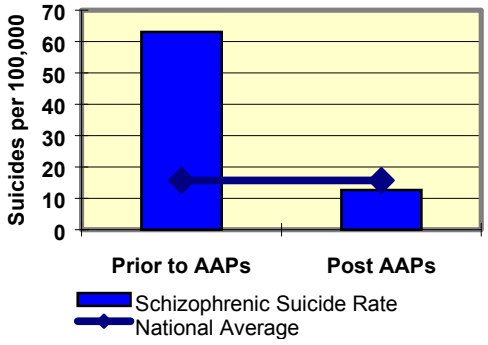

Figure 5 Reduction in Suicide with (AAPs) or NGMs

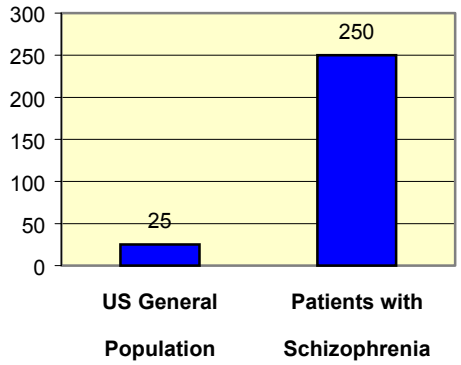

Figure 6 Suicide rate for Persons with Schizophrenia Vs. U.S. population

- **Cost of Relapse in Outpatient Schizophrenia**

Relapse has been a standard measurement for treatment success. Many community-based programs such as Service Ccoordination and Program of Assertive Community Treatment (PACT) have focused in part on increased compliance with medications.

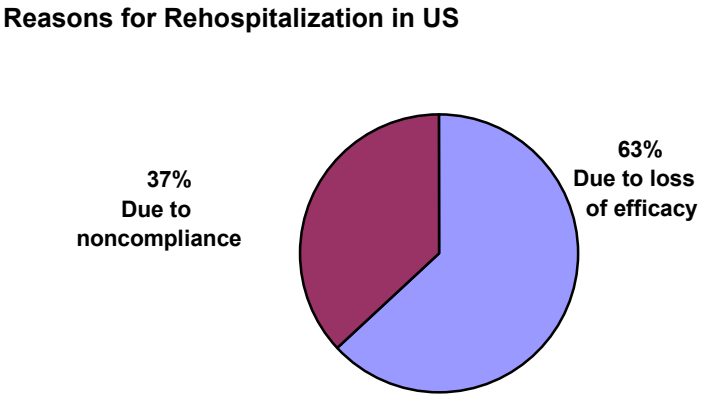

Figure 7 Reasons for rehospitalization of psychiatric patients on medications

This graph above shows a major reason for relapse is the loss of efficacy of the medication. The NGM, have had an effect on the decrease in both hospital episodes and bed days because of increased compliance and better efficacy.

It is also worth noting that about 30% of Schizophrenic patients are resistant to treatment with the older medications. These patients tend to consume bed years rather than bed days. Approximately 18% of SNAMHS inpatients have stays greater than 90 days.

Table 2 Efficacy of New generation antipsychotics Vs. Older antipsychotics

SYMPTOMS	OLD	NEW
Positive	Yes	Yes
Negative	No	Yes
Cognitive	No	Yes
Mood	No	Yes

In randomized clinical trials, studies have shown that the new generation antipsychotic medications have shown improvement in positive symptoms, such as hallucinations and negative symptoms such as apathy and agitation. (See table 2). They have also shown significant decreases in side effects, especially the most severe tardive dyskinesia. The result is fewer discontinuations of treatment. This is